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goose lake prairie

STATE NATURAL AREA

trail guide

DOCUMENTS

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NOTE: Check your illustration booklet ("Sights of Spring, Summer, Etc.") for the drawing to help you identify the different grasses as you see them.

THE WEED COMMUNITY

1. At this point you are standing in the midst of the results of man's destruction of the environment. Over one hundred years ago farmers pastured their pigs and cattle here. They were followed by heavy machinery constructing the nature trail and removing fill from the pond for building the parking lot. Native prairie grasses and wildflowers (called forbs), which can withstand very little soil disturbance or heavy traffic, have been overrun by European and Asian plants. We commonly call these plants weeds.

In one sense weeds are pioneer plants. They are the first plants to inhabit areas that have been severely disturbed by farming or construction, or by natural disasters such as floods. They help hold bare ground and thereby stop erosion of valuable soil that has taken thousands of years to build.

The key to most weed's success is their ability to get an early start on native plants and crops. Weeds also reach maturity quickly and go to seed before most native plants. The common weeds along the trail here are common ragweed, common milkweed, wild carrot, and brome grass.

EFFECT OF GLACIERS

2. This pond was originally carved out by the Wisconsin glacier over ten thousand years ago. The boulders in the foreground are called glacial erratics. They were left behind as glacial debris when huge sheets of ice melted and retreated north again. Many glacial erratics are present along the nature trail. Some may possibly be lying in one of the ancient channels of the Illinois River that was once much shallower and broader than it is today and at one time covered part of what is now Goose Lake Prairie State Natural Area.

BED ROCK

3. The large rock fragments here at the east end of the pond are part of the sandstone bedrock that lies beneath most of the area. These fragments were unearthed when the pond was enlarged to provide fill for the parking lot. Most of the soil in the area is very shallow (less than 10 feet) and rock outcroppings occur naturally in several areas.

The log cabin across the pond is a replica of the

log cabin built by John Cragg in 1834–35. The cabin, nicknamed the “Palace” because of its two story design, was one of the first in Grundy County. It is believed to have been a station on the underground railroad. High school youth built the cabin during the summers of 1980–81, as a project for the Youth Conservation Corps Program.

COMPARE, CONTRAST WEEDS — PRAIRIE

4. Have you noticed the gradual change to the more pleasing uniform appearance of the prairie as opposed to that of the ragged weedy appearance of the weed community surrounding the pond. Instead of a random selection of various plants you will notice groups called stands of native grasses. At first these stands are isolated but they become more numerous farther down the trail. The grasses along with broad leaved flowering plants, known collectively as forbs, are what makes up the community known as prairie. Most of the prairie grasses and forbs are perennial coming up each year from long-lived roots. These roots may live for decades or perhaps even for centuries deep in the soil. The prairie is a climax community, stable and settled. Prairie at this site is about 10,000 years old, dating back to the last glacier in this part of Illinois.

DRESDEN BLUFFS

5. Looking due northeast from this stake you can see the Dresden Bluffs — that mark the confluence of the Kankakee and Des Plaines River. The structures in the distance are the Dresden Nuclear Power Plant and General Electric Midwest Fuel Recovery Plant. They are two and one half miles away, giving you some idea of how prairie can dwarf distances.

NORTHERN PRAIRIE DROPSEED

6. The gracefully arched bunches of fine-leaved grass seen in this vicinity belong to the Northern Prairie Dropseed. Northern Prairie Dropseed is common in areas of medium soil wetness known as mesic prairie. Northern Prairie Dropseed attains a rather short height (two feet) for a prairie grass and usually grows best where the other prairie vegetation is not too tall. As this grass dries up in the fall the leaves curl into a spiral shape and give the impression of dozens of hanging corkscrews. The seeds of the Northern Prairie Dropseed have a peculiar odor much like buttered popcorn.

TREE INVASION

7. As the trail enters the nature preserve it

passes by a large, very dense grove of hawthorns. Hawthorns, in small numbers, were native to the prairie, but as livestock was pastured here and fire was eliminated from the grasslands the hawthorn seedlings were able to compete successfully with the native grasses and wildflowers for sunlight and water. The result is evident throughout the park. Hawthorns, and to a lesser extent prairie crabapple, wild plum, and quaking aspen, are proceeding to dominate the prairie along the drier ridges. Dead lower branches on large trees and completely killed smaller trees are evidence of the controlled burning program carried out at the park. Continued burning should kill the seedlings of unwanted trees and help bring the prairie back to its natural state. A number of trees along the trail have been cut down in an attempt to reclaim some of the more heavily infested areas. This grove of hawthorns will be left to show how fire interacts with and effects the older hawthorn groves.

(This trail will soon join with another trail named the Marsh Loop Trail. The Marsh Loop Trail is one-half mile long with rest benches and a floating bridge across a marsh. If you decide to take the Marsh Loop Trail you will not miss any numbered posts. The Marsh Loop Trail will rejoin this trail at post #9.)

BIG BLUESTEM

8. Big Bluestem is the trademark of the tall grass prairie. Its other common name, turkeyfoot, refers to the arrangement of the seed heads which resembles a bird's foot. Big Bluestem is the dominant grass of soils that are not real wet or real dry, but will grow sparingly in other habitats. Big Bluestem spreads by underground stems known as rhizomes. This tendency enables "big blue" to occupy large areas by forming a dense sod of roots and rhizomes much like the bluegrass in most lawns. Big Bluestem would spread very slowly if it had to do so only by seed because other grasses and wildflowers produce a dense shade and make competition for light a severely limiting factor on the growth of the bluestem seedlings. Big Bluestem itself forms such a tough, tangled sod that its own seedlings cannot penetrate to soil and water. Big Bluestem is an excellent forage crop and was often used to feed livestock. It is far more nutritious and nearly as productive as most presently used forage crops. Some of the wildflowers that are commonly found among the stalks of "big blue" are white flax and cream flax, indigo, rattlesnake-master, wooly sunflower, prairie cinquefoil, and prairie rose.

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PRAIRIE POTHOLE

9. The retreat of the ancient Ice Age glaciers left the Goose Lake Prairie area riddled with shallow depressions. These shallow depressions soon filled with water and became the wildlife havens called prairie potholes.

A pothole's shoreline is usually a dense mass of cattails and reeds inhabited by ducks, rails, herons, and marsh wrens. Mink and coyotes prowl the shore line looking for meadow voles and careless muskrats, especially during periods of low water when the relatively slow-witted and slow-footed muskrat is more likely to be separated from his home by dry land. The long and slender mink is capable of entering the muskrats home through the same entrance the muskrat uses, but the coyote must resort to tearing the house from above, a job that becomes nearly impossible when the house freezes solid during the winter.

Bull frogs and leopard frogs abound in prairie potholes and often fall prey to raccoons, water snakes, and occasionally snapping turtles.

Fish survive only in the larger potholes due to the seasonal fluctuation of the water levels. A pothole brimming full of water in early June can be bone dry in August. Any creature that cannot migrate over land is doomed by such fluctuations. The larger ponds do support populations of minnows, sunfish, carp, and bullheads.

SWITCH GRASS

10. Switch Grass grows in nearly pure stands in several areas along the nature trail. It is one of the most common native prairie grasses but rarely grows far from stands of Big Bluestem, Prairie Cordgrass, or Indian Grass. Switch Grass prefers moist soil and readily occupies slightly disturbed areas along the nature trail and the banks of drainage ditches. At any time during the growing season Switch Grass can be distinguished from the other common prairie grasses by the slight bend in the stem at the stem joints (called nodes) and its medium green coloration. Masses of Switch Grass take on a reddish-brown color as the seeds ripen in August. When growing under ideal conditions Switch Grass often reaches a height of six to seven feet.

INDIAN GRASS

11. Indian Grass is one of the common native prairie grasses, but is difficult to distinguish from Big Bluestem until it comes into bloom in mid August. At that time the reddish-brown tassel-like flowers make Indian Grass quite easy to identify. Indian Grass thrives in slightly disturbed



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areas like Switch Grass but prefers slightly drier soil. It has very short rhizomes and rarely forms a sod. Indian Grass will grow up to eight feet tall.

LITTLE BLUESTEM

12. Little Bluestem is the most widespread grass in the North American prairie, but at Goose Lake Prairie it is not too common. It is generally a grass of dry soils; river bluffs, higher slopes, and more westerly prairies. Little Bluestem usually develops a root system up to twenty feet deep. At Goose Lake Prairie the roots are limited by shallow bedrock so that they never develop to their full potential. This deep root system enables Little Blue stem to withstand much more severe drought than Prairie Cordgrass or even Big Bluestem. Little Bluestem sends out rhizomes but produces a sod only under high soil moisture conditions. Usually it forms solitary bunches two to four feet tall. Some wildflowers that occur with Little Bluestem are flowering spurge, partridge pea, and several species of aster, sunflowers and goldenrod.

PRAIRIE MANAGEMENT

13. The science of ecology deals with the relationship between living organisms, and their environment and each other. In recent years great emphasis has been placed on the study of pyroecology; pyro being the Greek word for fire. Fire ecologists study the effects that fire has on communities of organisms.

Scientific research in fire ecology coupled with historical accounts of the early prairie has shown that the tall grass prairie must be burned every few years to prevent tree invasion and to stimulate vigorous growth and seed production of the grasses and wildflowers.

Each year in late March or early April, before the native wildlife have begun their spring nesting, selected areas of the park are set aflame and allowed to burn. Burning at this time of the year does not hurt the native prairie vegetation, because it does not start growing until mid to late April.

The park also carries on a program of tree cutting and a very carefully controlled program of selective herbicide spraying to kill some of the more persistent hawthorn trees.

WATER ON THE PRAIRIE

14. One of the major reasons why Goose Lake Prairie survived to be preserved was that it was

generally far too wet to plant crops on. Why then should there be a water pump on the prairie too wet to farm? Goose Lake Prairie was used heavily for pasture, but there is very little running surface water here as is the case on most prairies. Since most of the area has a very shallow water table it was a simple matter to construct windmills to bring the water to the surface for the thirsty livestock. The nearly constant daylight winds make the windmill the ideal power source for such a pump.

PRAIRIE CORDGRASS

15. Prairie Cordgrass is one of the most conspicuous grasses of the prairie. It prefers wet areas like this low spot and usually forms dense, pure stands in such spots. Cordgrass is by far the tallest prairie grass commonly reaching heights of eight to twelve feet. Carefully run your finger along the edge of a leaf. Those tiny saw-like teeth can inflict a painful cut on a bare arm or leg.

In July the comb-like flowers appear along the top foot of the flower stalk. Cordgrass grows in such dense stands that seedlings can only get started outside of the colony.

Cordgrass belongs to a community of plants known as wet prairie. Wet prairie plants must be able to withstand prolonged flooding during spring and early summer and prolonged dry spells during the late summer and fall. Some of the wildflowers that commonly occur with Cordgrass are blue vervain, hedge nettle, swamp milkweed, and water hemlock.

BLUEJOINT

16. Bluejoint is the most abundant grass of the marsh edge and wet prairie lands. It is easily recognized by its coarse bluish-green leaves, quite unlike the various shades of green displayed by the other prairie grasses. Bluejoint is one of the earliest bloomers of all the prairie grasses and by early July the whitish seed heads lend a sharp contrast to the otherwise green hue of the wet prairie. Large areas of Bluejoint prairie were spared from pasturing because of the wetness of its habitat and the fact that it is not as well liked by cattle as many of the other prairie grasses. Bluejoint often occurs in such dense stands that all other vegetation is excluded. In between stands of bluejoint wildflower such as seedbox, loosetrife, and swamp milkweed can be found along with several species of triangular-stemmed sedges.



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PRAIRIE SOILS

17. Illinois ranks number one in soybean production and number one or two in corn production every year. This superiority is the result of her rich prairie soil. The soil of the prairie is dark colored, thick and rich in organic matter. The rich black color and its high productivity are due to the fact that the prairie soil was formed under a grassland environment. Prairie grasses range in height from 2 to 12 feet and have extensive root systems. The tops of the grasses and some of these roots die each year, returning many nutrients to the soil. There is also a higher mineral content in prairie soil because the decaying grasses contain less acid than decaying matter in forest vegetation. Therefore, there is less acid to mix with rain water and leach out minerals from the soil.

NOTE:

FOR MORE INFORMATION ABOUT
PRAIRIE, UPCOMING PROGRAMS,
AND OTHER EVENTS STOP IN THE
VISITOR CENTER OR CONTACT:

Goose Lake Prairie State Natural Area
5010 North Jugtown Road
Morris, Illinois 60450
Phone Number: (815) 942-2899

